Department of Defense
Armed Forces Health Surveillance Branch
Global Zika Virus Surveillance Summary
(20 JUL 2016)

Approved for Public Release

For questions or comments, please contact:
dha.ncr.health-surv.list.afhs-ib-alert-response@mail.mil

DEPARTMENT OF DEFENSE (AFHSB)

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20 JUL 2016 (next report 27 JUL 2016)

DoD SURVEILLANCE: As per the AFHSB updated guidance for detecting and reporting DoD cases of Zika virus disease, confirmed and probable cases should be reported in DRSi as "Any Other Unusual Condition Not Listed," with "Zika" entered in the comment field along with pertinent travel history and pregnancy status.

The CDC Zika IgM MAC-ELISA and CDC Zika Trioplex rRT-PCR are available under an Emergency Use Authorization (EUA) at DoD laboratories. The IgM is available at three labs (NIDDL, BAMC, and USAFSAM). The Trioplex EUA assay is available at 16 (+1) DoD labs (BAMC, CRDAMC, EAMC, LRMC, USAMRIID, WBAMC, MAMC, Brian Allgood ACH, NHRC, USAFSAM, WAMC, NAMRU-3, TAMC, WRNMMC, NIDDL, and NAMRU-6).

Strategy for Control of Zika Virus Transmitting Mosquitoes on Military Installations is available from the Armed Forces Pest Management Board. The Armed Services Blood Program Office implemented the American Association of Blood Banks' guidance for reducing the risk of Zika, dengue, and chikungunya virus transmission through blood products on 12 FEB.

CASE REPORT: From 1 MAY 2015 to 20 JUL 2016, confirmed autochthonous vector-borne transmission of Zika virus (ZIKV) has been reported in 42 (+1, Saba) countries and territories in the Western Hemisphere. In PACOM, American Samoa, Samoa, Fiji, Kosrae (Federated States of Micronesia), Marshall Islands, New Caledonia, Papua New Guinea, and Tonga are reporting active ZIKV transmission. As of 30 JUN, an epi-curve published by PAHO showed a downward trend in suspected and confirmed cases reported since early FEB 2016 in the countries where the ZIKV outbreak started in the fall of 2015. However, Costa Rica, French Guiana, Guadeloupe, Guatemala, Jamaica, Mexico, Puerto Rico, Saint Barthelemy, and Saint Martin have reported increasing incidence over the four weeks leading up to 14 JUL. CDC has issued Alert Level 2, Practice Enhanced Precautions travel notices for 50 (+1, St. Eustatius) of these areas and for travelers to the 2016 Summer Olympics and Paralympics in Rio de Janeiro. According to CDC, locations above 6,500 feet elevation in these countries and territories present minimal transmission risk. Past vector-borne outbreaks have been reported from other areas of Africa, Southeast Asia, and the Pacific Islands, where sporadic transmission may continue to occur. Guinea-Bissau reported three ZIKV cases on 1 JUL; serological evidence of likely ZIKV transmission has previously been reported. Eleven countries have reported person-to-person transmission, most likely through sexual contact.

As of 13 JUL, CDC (ArboNet) and state health departments report 1,292 (+173) travel-related cases, 14 sexually transmitted cases, and one laboratory acquired case in 46 states and the District of Columbia since MAY 2015; no autochthonous vector-borne cases have been reported. On 8 JUL, the Salt Lake County (UT) DOH reported the death of an elderly patient who tested positive for ZIKV and had an underlying medical condition. On 18 JUL, UT DOH reported that a family contact who helped care for the deceased case had tested positive for ZIKV. The case is under investigation, but exposure through sexual contact or travel appears to have been ruled out. As of 30 JUN, Puerto Rico DOH reports 4,437 (+1,336) confirmed cases (1 death), with 553 (+77) cases in pregnant women. As of 13 JUL, The U.S. Virgin Islands DOH reported 47 (+15) confirmed cases. On 13 JUL, news media said that American Samoa had reported 43 (+11) confirmed cases, including 16 (+1) cases in pregnant women.

As of 7 JUL, the CDC's U.S. pregnancy registry has recorded 346 (+26) pregnant women with laboratory evidence of a ZIKV infection in the 50 states and the District of Columbia. Nine (+2) infants were born with birth defects, and there were six (+1) fetal deaths due to birth defects. CDC is tracking an additional 303 (+24) pregnant women in the U.S. territories, with one fetal death due to birth defects.

Text updated from the previous report will be printed in red; items in (+xx) represent the change in number from the previous AFHSB summary (13 JUL 2016).

All information has been verified unless noted otherwise. Additional sources include: Pacific Public Health Surveillance Network, Salt Lake City Tribune.

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CASE REPORT (cont'): On 15 JUL, the New York City Department of Health and Mental Hygiene reported suspected female-to-male transmission of ZIKV following "condomless vaginal intercourse." The Lancet reported research on 11 JUL that ZIKV had been found in vaginal secretions.

As of 19 JUL, the Florida DOH is investigating a "possible non-travel related" Zika case in Miami-Dade County.

ZIKA AND MICROCEPHALY: As of 19 JUL, Brazil (1,687 (+31)) cases), Cape Verde (11 cases), Colombia (21 (+3) cases), French Polynesia (8 cases), the Marshall Islands (1 case), Martinique (6 cases), El Salvador (1 case), French Guiana (1 case), Panama (5 cases), and Puerto Rico (1 case) have reported microcephaly and other fetal malformations potentially associated with ZIKV infection or suggestive of a congenital infection. The U.S. (12), Spain (2), and Slovenia (1) have reported travel associated microcephaly cases. NEJM published a preliminary analysis of the ZIKV outbreak in Colombia, with the main finding that infection during the third trimester of pregnancy is not linked to structural abnormalities in the fetus. CDC has said, "a causal relationship exists between prenatal Zika virus infection and microcephaly and other serious brain anomalies."

ZIKA AND GUILLAIN-BARRÉ SYNDROME: According to WHO on 13 JUL, 15 countries (14 in the Western Hemisphere and French Polynesia) have reported Guillain-Barré syndrome (GBS) cases that may be associated with the introduction of ZIKV. Five GBS cases are linked to ZIKV in the continental U.S. and 19 (+2) cases in Puerto Rico.

USG RESPONSE: On 13 JUL, CDC published a model of risk of ZIKV importation resulting from travel to the 2016 Olympic and Paralympic Games, which explains that travel associated with the Olympics "does not pose a unique or substantive risk for mosquito-borne transmission of ZIKV in excess of that posed by non-Games travel" for most countries. On 14 JUN, CDC issued its draft interim plan for response activities that would occur after local ZIKV transmission has been identified in the continental United States and Hawaii. CDC published interim guidance for interpretation of ZIKV antibody test results in its 3 JUN MMWR. ZIKV disease is a notifiable disease in the U.S. Additional data, guidance, and information from CDC is available on its ZIKV web pages.

GLOBAL RESPONSE: WHO issued a revised Strategic Response Plan on 17 JUN that places a greater focus on preventing and managing medical complications caused by ZIKV infection. Following the third meeting of the WHO Emergency Committee concerning ZIKV and observed increases in neurological disorders and neonatal malformations on 14 JUN, WHO said that the clusters of microcephaly cases and other neurological disorders continue to constitute a Public Health Emergency of International Concern (PHEIC). The Committee found the risk of further international spread of ZIKV from the Olympic and Paralympic games is very low and reaffirmed its previous advice that there should be no general restrictions on travel and trade with countries, areas, and/or territories with ZIKV transmission. The Committee provided additional advice to the Director-General on controlling ZIKV during mass gatherings. WHO updated its interim guidance for preventing sexual transmission on 7 JUN. PAHO has created a searchable database of published primary research and protocols. WHO Regional Office in Europe assessed the risk of ZIKV spread in Europe during late spring and summer to be low to moderate. For additional information, visit the WHO and PAHO Zika web pages.

MEDICAL COUNTERMEASURES: According to a study published in Nature on 28 JUN, two vaccine candidates, including one developed at the Walter Reed Army Institute of Research (WRAIR), protected 100% of tested mice from ZIKV infection four and eight weeks after a single injection. WRAIR will co-develop its vaccine with Sanofi Pasteur.

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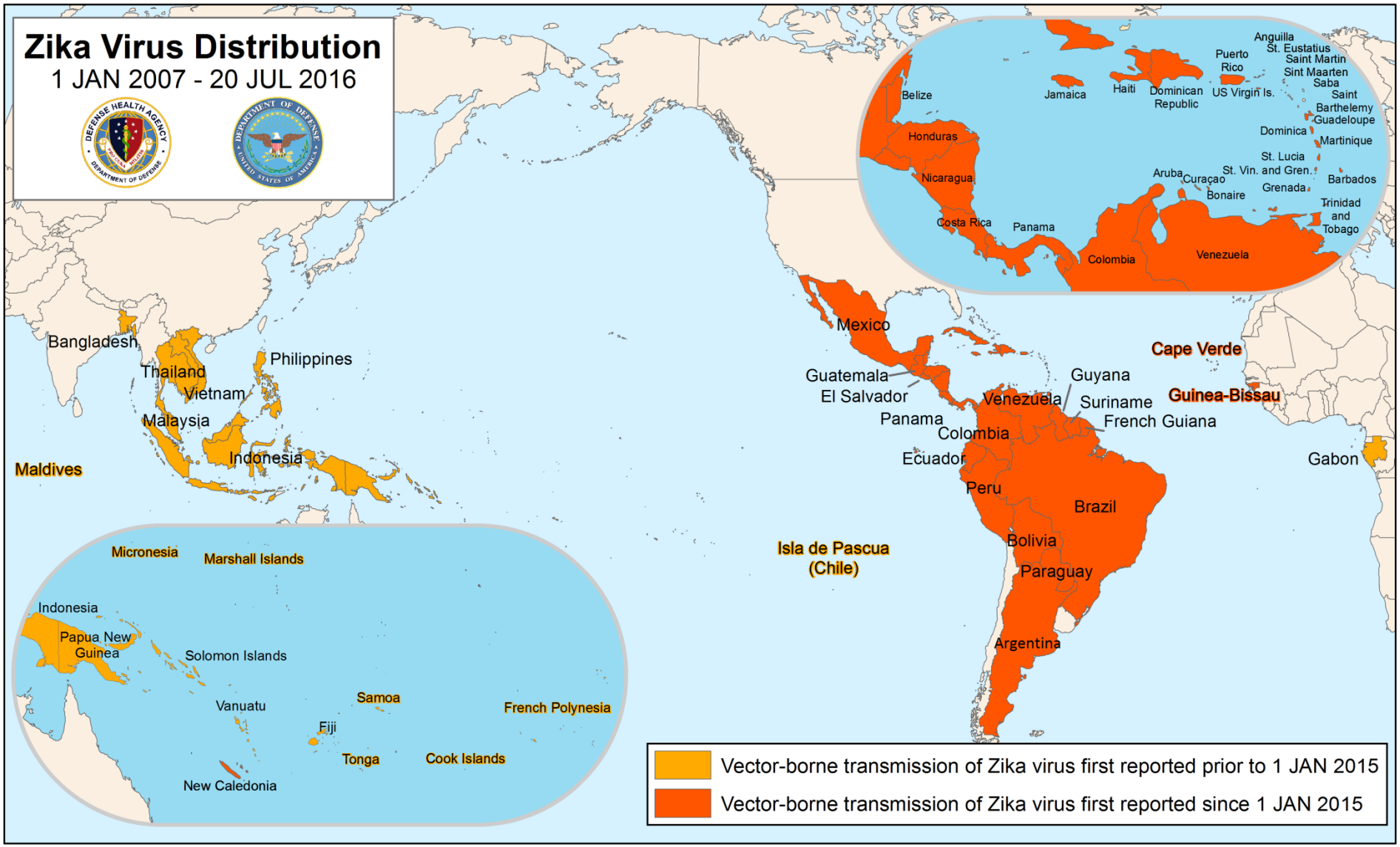

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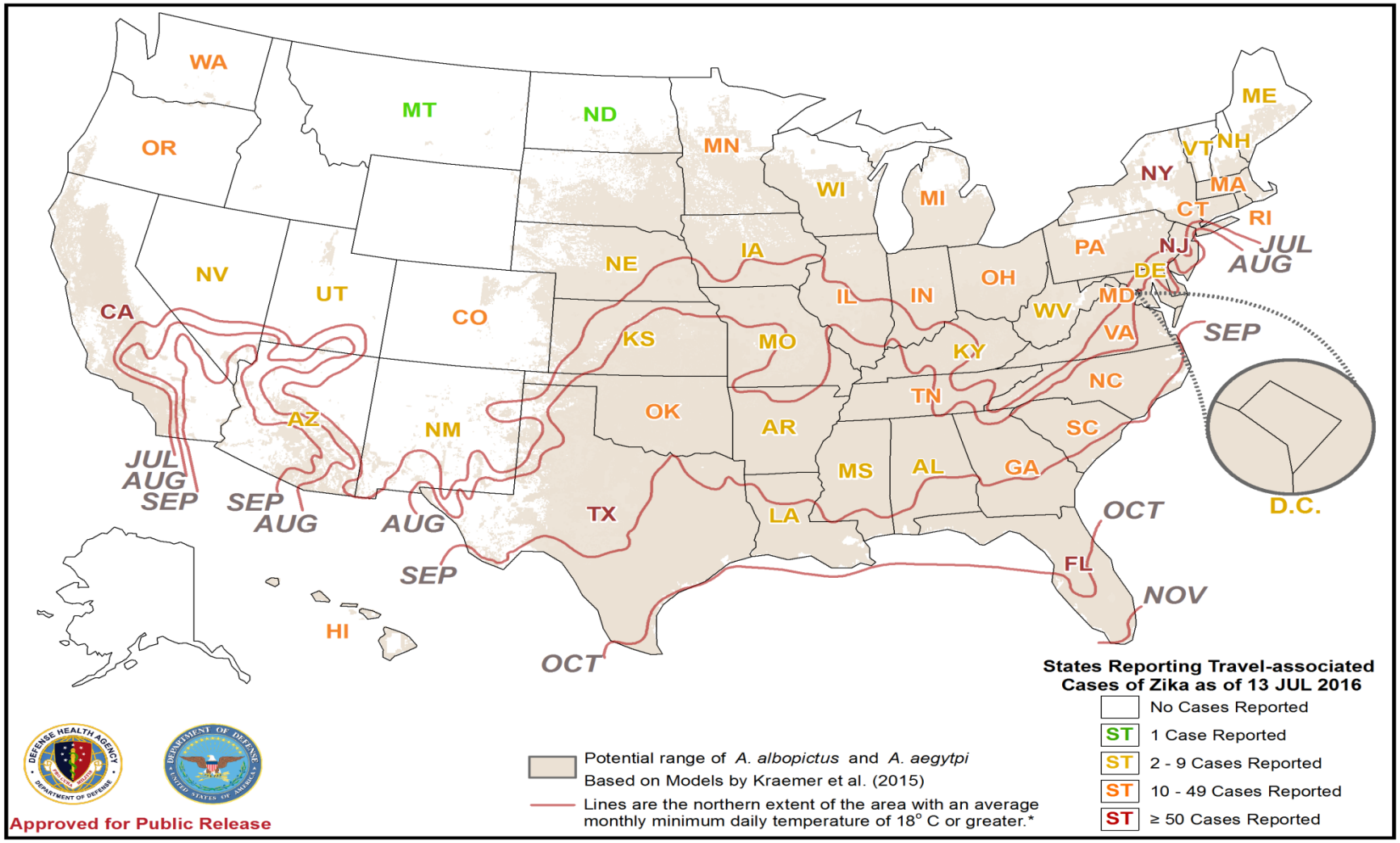
Overlap of States Reporting Imported Zika Cases with Locations of Major DoD Installations, and the Estimated Range of Mosquito Vectors and Transmission Suitability

20 JUL 2016



This version of the map shows that after JUL the northern extent begins to move southward.

Based on Sang et al, Predicting Unprecedented Dengue Outbreak Using Imported Cases and Climatic Factors in Guangzhou, 2014. PLoS Negl Trop Dis 9(5);e0003808.

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Western Hemisphere Countries and Territories with Autochthonous Transmission of Zika Virus: 01 JAN 2015 – 14 JUL 2016

	Confirmed	Suspected	Microcephaly Cases*	Reporting GBS†
Total	84,834	423,160	1,722	14 Countries

Country/Territory	Confirmed	Suspected	Microcephaly Cases*	Reporting GBS†
Anguilla	1	0		
Argentina	23	1,707		
Aruba	21	0		
Barbados	18	770		
Belize	5	0		
Bolivia	126	0		
Bonaire, St. Eustatius, Saba	8	0		
Brazil	64,311	161,241	1,687**	Yes
Colombia	8,506	88,978	21**	Yes
Costa Rica	186	768		
Cuba	1	0		
Curaçao	208	0		
Dominica	57	611		
Dominican Republic	101	3,771		Yes
Ecuador	1,082	1,348		
El Salvador	46	10,760	1	Yes
French Guiana	483	8,970	1	Yes
Grenada	2	0		
Guadeloupe	379	22,190		Yes
Guatemala	408	1,853		

Country/Territory	Confirmed	Suspected	Microcephaly Cases*	Reporting GBS†
Guyana	6	0		
Haiti	5	2,125		Yes
Honduras	46	26,276		Yes
Jamaica	44	2,456		Yes
Martinique	12	32,960	6	Yes
Mexico	786	0		
Nicaragua	385	0		
Panama	293	1,214	5††	Yes
Paraguay	8	275		
Peru	82	0		
Puerto Rico	4,437	0	1	Yes
Saint Barthelemy	53	230		
Saint Lucia	13	306		
Saint Martin	200	1,420		
Saint Vincent and the Grenadines	8	0		
Sint Maarten	25	0		
Suriname	697	2,669		Yes
Trinidad and Tobago	83	0		
U.S. Virgin Islands	47	377		
Venezuela	1,632	49,885		Yes

* Number of microcephaly and/or CNS malformation cases suggestive of congenital infections or potentially associated with ZIKV infection
**Brazil is currently investigating 3,142 suspected microcephaly cases as of 9 JUL; Colombia is currently investigating 160 suspected microcephaly cases as of 9 JUL.
† Reported increase in GBS cases associated with the introduction of ZIKV and/or GBS case(s) linked to ZIKV infection
†† WHO reports that it "is not possible to establish a link between" ZIKV infection and microcephaly in one of the cases due to a lack of information, specifically trimester of infection.

Sources: Zika cases reported to PAHO as of 14 JUL, and Zika cases reported by the Puerto Rico DOH as of 30 JUN; and GBS cases and microcephaly cases reported to WHO as of 14 JUL, except for microcephaly cases reported by the MOHs of Brazil and Colombia as of 9 JUL.

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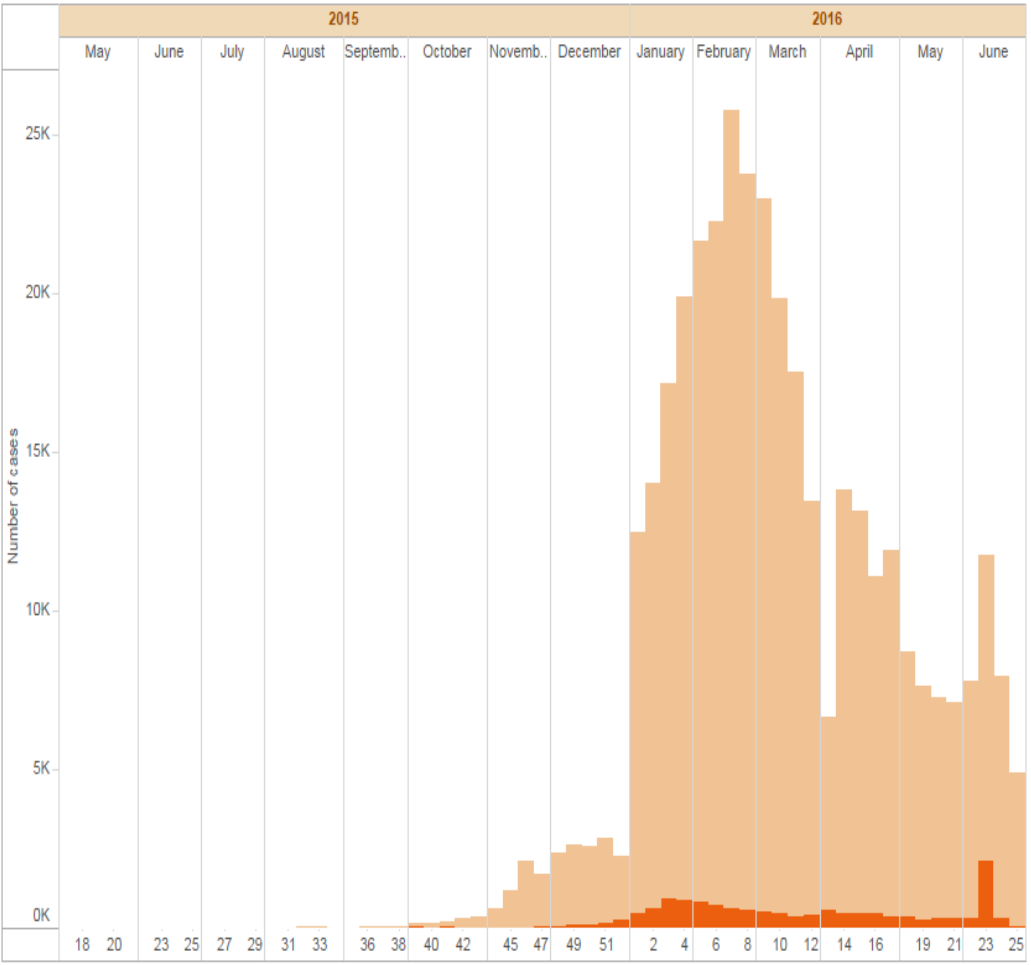
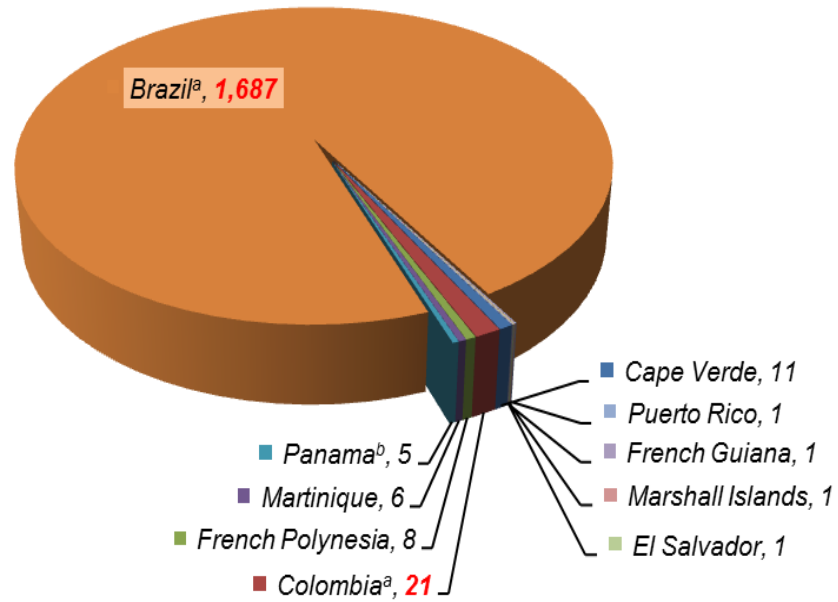
Suspected and confirmed ZIKV cases in the Americas by Epidemiological Week, 1 MAY 2015 – 30 JUN 2016



Source: PAHO

Countries and Territories reporting microcephaly and/or CNS malformation cases potentially associated with ZIKV infection as of 14 JUL 2016



a) Brazil is currently investigating 3,142 suspected microcephaly cases as of 9 JUL; Colombia is currently investigating 160 suspected microcephaly cases as of 9 JUL.

b) WHO reports that it "is not possible to establish a link between" ZIKV infection and microcephaly in one of the reported Panama cases because of a lack of information and because the infection may have occurred too late in the pregnancy.